AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A film having a multilayer heterostructure, comprising at least one organic layer formed by self-assembly, said organic layer containing from 0.001 to 100 ~~nM~~ mM of ~~a sensitizing dye~~ copper (II) phthalocyanine-sodium tetrasulfonate.

2. (canceled).

3. (canceled).

4. (previously presented): The film according to claim 1, wherein said organic layer contains an aromatic compound.

5. (previously presented): The film according to claim 1, further comprising at least one inorganic layer formed by self-assembly.

6. (withdrawn): A film having a multilayer heterostructure, comprising at least one organic layer and at least one inorganic layer each formed by self-assembly, wherein said organic layer contains an aromatic compound.

7. (previously presented): The film according to claim 1, wherein said organic layer is formed by an alternate adsorption method.

8. (previously presented): The film according to claim 5, wherein said inorganic layer is formed by a sol-gel method.

9. (previously presented): The film according to claim 5, wherein said organic and inorganic layers are alternately laminated to each other.

10. (currently amended): The film according to claim 4, wherein said aromatic compound is ~~a high-molecular compound having an aromatic ring~~ at least one compound selected from the group consisting of poly-p-phenylene vinylene, polyaniline, polypyrrole, polythiophene, poly-p-phenylene, polypyridine and acid salts of poly(xylydene-tetrahydrothiophenium).

11. (currently amended): The film according to claim 1, wherein said organic layer is produced by alternate adsorption of ~~a high-molecular compound having an aromatic ring and a high-molecular compound having a carboxyl group~~ at least one compound selected from the group consisting of poly-p-phenylene vinylene, polyaniline, polypyrrole, polythiophene, poly-p-phenylene, polypyridine and acid salts of poly(xylydene-tetrahydrothiophenium), and at least one compound selected from the group consisting of polyacrylic acid and polymethacrylic acid.

12. (previously presented): The film according to claim 5, wherein said inorganic layer contains a titanium compound.

13. (withdrawn): A process for producing a film having a multilayer heterostructure, comprising the step of laminating an organic layer containing an aromatic compound and a sensitizing dye on a substrate by self-assembly.

14. (withdrawn): The process according to claim 13, wherein said sensitizing dye exhibits light absorption in a visible light range.

15. (withdrawn): The process according to claim 13, wherein said sensitizing dye is a copper phthalocyanine-based compound.

16. (withdrawn): The process according to claim 13, further comprising the step of laminating an inorganic layer on the substrate by self-assembly in addition to said organic layer.

17. (withdrawn): A process for producing a film having a multilayer heterostructure, comprising the step of respectively laminating an organic layer containing an aromatic compound and an inorganic layer on a substrate by self-assembly.

18. (withdrawn): The process according to claim 13, wherein said organic layer is laminated by an alternate adsorption method.

19. (withdrawn): The process according to claim 16, wherein said inorganic layer is laminated by a sol-gel method.

20. (withdrawn): The process according to claim 16, wherein said organic and inorganic layers are alternately laminated on each other.

21. (withdrawn): The process according to claim 13, wherein said organic layer is laminated by alternate adsorption of a high-molecular compound having an aromatic ring and a high-molecular compound having a carboxyl group.

22. (withdrawn): The process according to claim 21, further comprising the steps of:

dipping the substrate in an aqueous solution containing the high-molecular compound having an aromatic ring;

dipping the substrate in an aqueous solution containing the high-molecular compound having a carboxyl group; and

rinsing the substrate in a rinsing bath between the dipping steps.

23. (withdrawn): The process according to claim 22, wherein at least one of said aqueous solution containing the high-molecular compound having an aromatic ring and said aqueous solution containing the high-molecular compound having a carboxyl group, contains a sensitizing dye.

24. (withdrawn): The process according to claim 19, wherein said inorganic layer is laminated by sol-gel method using a solution containing titanium alkoxide.

25. (withdrawn): The process according to claim 24, further comprising the steps of:

dipping the substrate in the solution containing titanium alkoxide;

hydrolyzing the titanium alkoxide absorbed onto the substrate; and

rinsing the substrate in a rinsing bath between the dipping and hydrolyzing steps.

26. (previously presented): An optical device using the film having a multilayer heterostructure as claimed in claim 1.

27. (withdrawn): An optical device using the film having a multilayer heterostructure which is produced by the process as claimed in claim 13.

28. (withdrawn): The film according to claim 6, wherein said organic layer is formed by an alternate adsorption method.

29. (withdrawn): The film according to claim 6, wherein said inorganic layer is formed by a sol-gel method.

30. (withdrawn): The film according to claim 6, wherein said organic and inorganic layers are alternately laminated to each other.

31. (withdrawn): The film according to clam 6, wherein said aromatic compound is a high-molecular compound having an aromatic ring.

32. (withdrawn): The film according to claim 6, wherein said organic layer is produced by alternate adsorption of a high-molecular compound having an aromatic ring and a high-molecular compound having a carboxyl group.

33. (withdrawn): The film according to claim 6, wherein said inorganic layer contains a titanium compound.

34. (withdrawn): The process according to claim 17, wherein said organic layer is laminated by an alternate adsorption method.

35. (withdrawn): The process according to any of claim 17, wherein said inorganic layer is laminated by a sol-gel method.

36. (withdrawn): The process according to claim 17, wherein said organic and inorganic layers are alternately laminated on each other.

37. (withdrawn): The process according to claim 17, wherein said organic layer is laminated by alternate adsorption of a high-molecular compound having an aromatic ring and a high-molecular compound having a carboxyl group.

38. (withdrawn): An optical device using the film having a multilayer heterostructure as claimed in claim 6.

39. (withdrawn): An optical device using the film having a multilayer heterostructure as claimed in claim 13.

40. (withdrawn): An optical device using the film having a multilayer heterostructure as claimed in claim 17.

41. (withdrawn): An optical device using the film having a multilayer heterostructure which is produced by the process as claimed in any of claim 17.